

No. 768,441.

PATENTED AUG. 23, 1904.

T. W. FISHER.
SCREW DRIVER.

APPLICATION FILED MAR. 4, 1903.

NO MODEL.

Fig. 1.

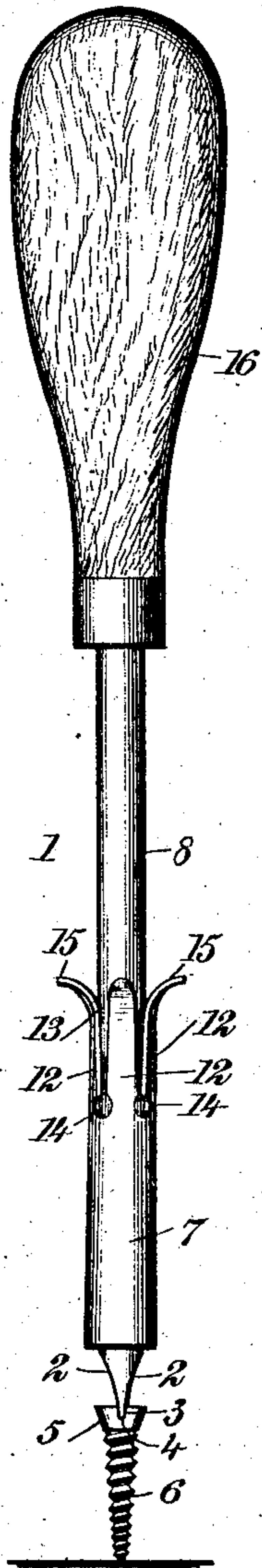


Fig. 2.

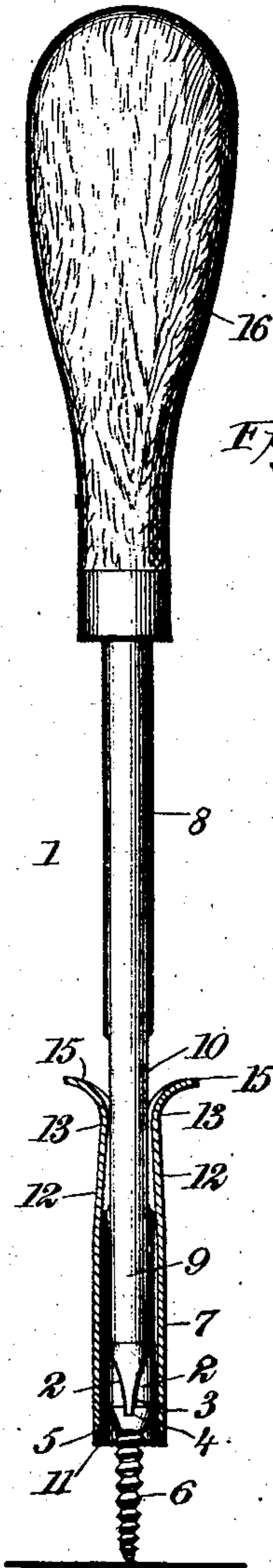
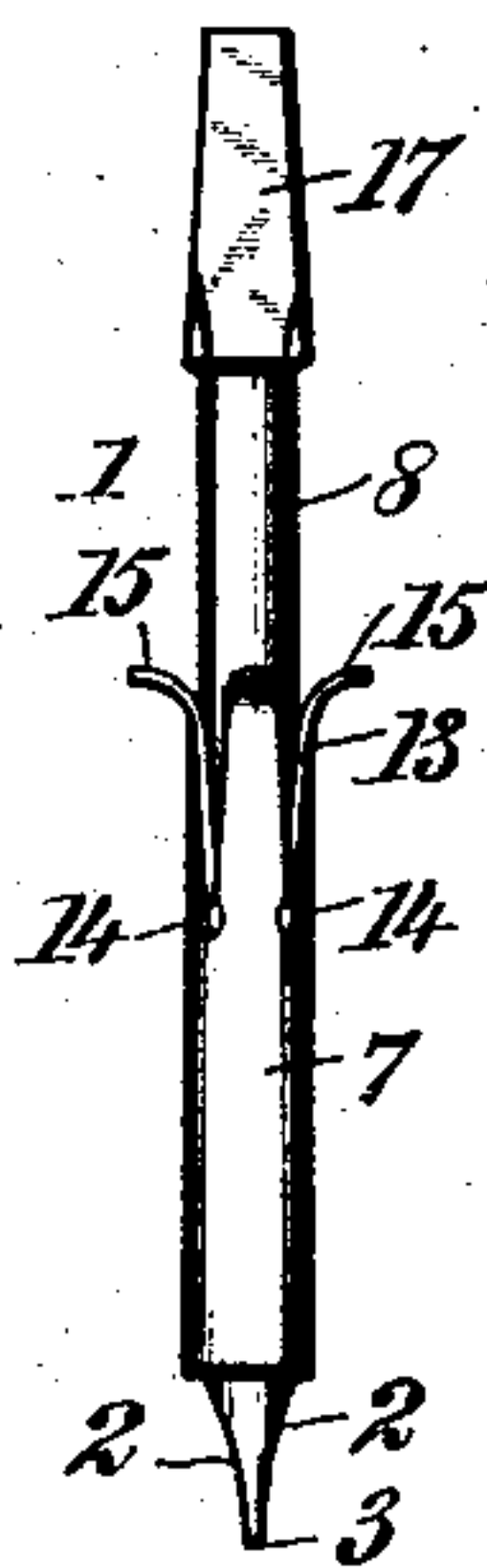


Fig. 3.



WITNESSES:

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THOMAS WHITE FISHER, OF HELENA, MONTANA.

SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 768,441, dated August 23, 1904.

Application filed March 4, 1903. Serial No. 146,069. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WHITE FISHER, a citizen of the United States, and a resident of Helena, in the county of Lewis and Clarke and State of Montana, have invented a new and Improved Screw-Driver, of which the following is a full, clear, and exact description.

The invention relates to screw-drivers or other similar implements; and it consists, substantially, in the improvements hereinafter particularly described.

Considerable annoyance and inconvenience are frequently experienced in the application or use of the ordinary screw-driver due to the accidental dislodgment or unseating of the operative end thereof from the transverse notch or groove therefor in the head of the screw operated upon, and it often happens from such cause that when a screw is being forcibly driven home in a structure or piece of work the surrounding surface of the latter becomes marred or disfigured from contact therewith of the edge of the implement, not infrequently necessitating a new dressing or planing off of such surface, and, as is apparent, these operations involve as their necessary accompaniments increased expense and loss of time aggregating a considerable factor in extensive operations.

The present invention has for its principal object to provide a screw-driver having means (denominated by me a "holder" or "guide") whereby the above-mentioned annoyances and inconveniences may be readily overcome and also whereby the operation of insertion and withdrawal of screws may be effected with ease and facility and without liability to cutting or otherwise injuring the hand of the operator.

The invention also has other objects in view, substantially as will more fully hereinafter appear when taken in connection with the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of an ordinary screw-driver having my improvements embodied in connection therewith, the said view indicating the position of the holder or guide at the time of application of the operative end

of the implement to the head of a screw and previous to the adjustment of said holder or guide for effective operations. Fig. 2 is a similar view, in part vertical section, showing my improved holder or guide as adjusted for operation either for the insertion or withdrawal of a screw from a structure or piece of work. Fig. 3 is also a side view showing my improvements as applied to a screw-driver constructed in the form of a bit to be used in connection with an ordinary carpenter's stock or brace.

Before proceeding with a more detailed description it may be stated that in carrying my invention into effect I employ a screw-driver or similar implement of ordinary construction, excepting that for a suitable distance from the operative end thereof the same is preferably reduced in diameter for a limited extent, and applied to the said implement is what I term a "holder" or "guide," which is adjustable for the purpose of inclosing or surrounding the head of a screw during the time of engagement therewith by the implement, as will hereinafter appear. The construction and organization of the several elements or parts are such that during the operation of insertion of a screw in a structure or piece of work the screw is evenly guided and prevented from wobbling, while at the same time the edge or operative end of the implement is effectively maintained in place in the groove or notch therefor in the head of the screw, and thus the screw may be driven all the way home without liability to deface any part of the said structure or work.

My improved holder or guide constitutes a device which may be readily attached to or detached from an ordinary screw-driver or similar implement, and the said device may be manufactured in large quantities and sold to the trade separately as a new article of manufacture.

While I have herein represented my improvements in certain preferred embodiments, it will be understood, of course, that I am not limited thereto in precise detail, since immaterial changes therein may be resorted to coming within the scope of my invention.

1 represents the stem or body portion of an

ordinary screw-driver or other similar implement, the same being beveled at 2 2 on opposite sides at the operative end 3 thereof to adapt such end to enter between the sides of the usual transverse notch or groove 4 formed in the head 5 of an ordinary screw 6, whereby the screw may be turned or driven home in a structure or piece of work on proper manipulation of said implement. In order to insure engagement of the screw-head throughout the operation of insertion or withdrawal of the screw, and thereby prevent injury to or abrasion of the surface of the work by the edge of the implement which would be apt to occur on slipping of the end of the implement from the notch or groove in the screw-head, I employ a suitable holder or guide 7, which, as shown, is constituted of a unitary structure entirely devoid of independent springs or other auxiliaries, the said device being adjustable on the body of the implement and being so constructed as to be held in its operative position preferably by friction. Thus the said holder or guide 7 consists of a tube of suitable length and the internal diameter of which is preferably a little in excess of the diameter of the enlarged portions 8 and 9 of the body portion of the implement, it being shown at 10 (see Fig. 2) that for a suitable distance the said body portion of the implement is reduced in diameter. The lower end of the holder or guide is preferably made slightly flaring at 11, (see Fig. 2,) so as to facilitate the slipping of this end over the head of a screw to be operated upon, while the said holder or guide is slit longitudinally a suitable distance from its upper edge at intervals of its circumference, thereby forming a series of members or fingers 12, which are bent or sprung inwardly at 13, so as to grip or take a firm hold upon the enlarged portions 8 and 9 of the implement, and thus be held by friction upon either one of such portions, accordingly as the holder or guide may be moved to one or the other of the positions indicated in the drawings.

As shown in Fig. 1, the holder or guide is moved upwardly by which to cause the operative end 3 of the implement to protrude from the lower end of the tube, thus enabling the proper insertion of such operative end within the notch or groove in the head of the screw to be operated upon, it being understood that the device is held in this position by the clamping action of the bent members or fingers 12 upon the lower part of the enlarged portion 8 of the body of the implement.

In Fig. 2 the holder or guide is shown as having been moved or adjusted to cause the lower end of the tubular portion thereof to inclose or envelop the head of the screw, this position of the said device being maintained by the clamping action exerted by the said bent members or fingers 12 upon the upper part of the said enlarged portion 9 of the imple-

ment-body. While this latter relationship of the several parts is had, it is apparent that the screw may be driven home without liability of the operative end of the implement slipping from the notch or groove in the screw-head, since the holder or guide cannot be displaced laterally of said screw-head, and it may be stated that after the screw has been forced into the structure or work to such an extent as would bring the lower edge of the tubular portion of the holder or guide 7 nearly into contact with adjacent portions of the surface of such structure or work the said holder or guide is then moved upwardly substantially to the position indicated at Fig. 1, whereupon the final turns may be imparted to the screw with the protruding end of the implement, thus avoiding marring of any part of the surface of the work by abrasion of the said lower end of the said tubular portion of the device. While the said holder or guide is in the last-named position upon the implement it is apparent that the latter may be operated in the ordinary manner, and it may be further stated that when the said holder or guide is adjusted upon the implement so as to cause the members or fingers 12 thereof to be free of each of the enlarged portions 8 and 9 the said implement may be turned independently within the holder or guide, due to the fact that the members or fingers 12 exert no clamping action upon the reduced portion 10 of the implement-body, and in this way the operation of inserting or withdrawing a screw may be conveniently effected by turning the implement with one hand while supporting the holder or guide with the other.

It will be understood that if no use whatever is to be made of the holder or guide the same may be either detached from the implement altogether or else moved along the same for the full extent of the enlarged portion 8 thereof, upon which it will be held by frictional engagement of the bent members or fingers, as is apparent. At the base of each of the slits between the members or fingers 12 a circular opening 14 is formed in the holder or guide, said construction giving increased elasticity to the said members or fingers and overcoming any tendency to splitting of the tubular portion of the device, and, as will be observed, the ends of the members or fingers are bent outwardly at 15, by which to enable the slidable adjustment of the holder or guide to be conveniently effected by the hand of the operator.

The screw-driver may be provided with a suitable handle 16, if desired, as shown in Figs. 1 and 2, or the same may be tapered and squared, as indicated at 17, Fig. 3, as in the manner of an ordinary bit, whereby the structure may be applied in the usual manner to an ordinary brace or stock.

My improved device may be constructed of different sizes or diameters, and it is apparent

that the same may be applied to many of the ordinary screw-drivers or similar implements already in use. As before stated, I am not limited to the specific embodiments of the device herein illustrated.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination with a screw-driver or similar implement having a shank provided with a reduced portion near the operative end thereof, of a tubular member adapted for sliding adjustment on the shank to cause one end of the same to project beyond the operative end of the shank when in use and to be withdrawn to the upper end thereof when not in use, said tubular member being rigid at the end designed to project and having the other end

provided with a plurality of resilient fingers adapted to grip the unreduced portions of the shank above and below said reduced portion but to permit the reduced portion of the shank to move freely between the fingers without being gripped thereby, said fingers being curved outwardly at their ends and said reduced portion of the shank being provided with beveled shoulders, whereby said fingers may ride up freely over said shoulders.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS WHITE FISHER.

Witnesses:

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GEO. R. METTEN.